Sea Ice Melt in Summer 2013

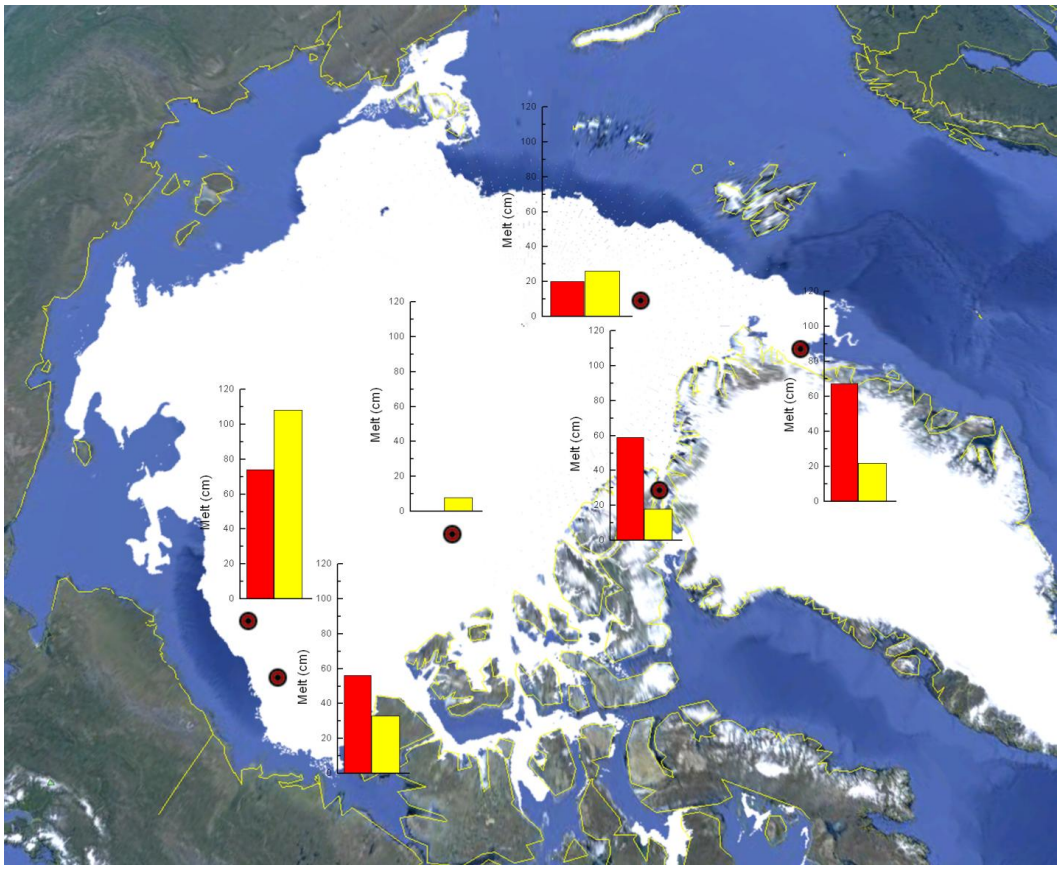

Figure 1. Results from six ice mass balance buoys that operated throughout the summer of 2013. The red dot denotes the buoy position on 28 August 2013. The red bar indicates the total amount of summer surface melt and the yellow bar shows bottom melt. The white background is the MASIE ice extent on 28 August 2013 mapped on Google Earth.

The 2013 Arctic sea ice melt season is drawing to a close. Temperatures across the Arctic Ocean have dropped below 0^{o}C, surface melting has ended, and in many locations new snow has fallen. While bottom melting continues, the rates have slowed considerably.

During the summer of 2013 there were six ice mass balance buoys deployed in the Arctic over a wide area (red dots in Figure 1). The buoys were deployed in undeformed multiyear ice, with a pre-melt ice thickness between 2.2 and 3.5 m. Surface ice melting ranged from 0, in the central Arctic, to 75 cm, in the Beaufort Sea. While bottom melting is continuing in some locations, most of this year's bottom melting has occurred. Bottom melting varied from 8 to 108 cm. The largest bottom melting was observed at a buoy near the ice edge in the Beaufort Sea. This buoy had the largest total amount of melt, thinning from 339 cm in early June to 157 cm on 28 August. Ice thicknesses at the other buoys on 28 August ranged from 121 to 267 cm.

Data from the ice mass balance buoys is available at: http://imb.crrel.usace.army.mil/